

REMARKS

Claims 1 through 20 are pending in this application, of which claims 15 through 20 stand withdrawn from consideration presumed to the provisions of 37 CFR §1.142(b). Accordingly, claims 1 through 14 are active.

Claims 1 and 6 have been amended. Care has been exercised to avoid the introduction of new matter. Indeed, adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, page 9 of the written description of the specification, lines 14 through 18, as well as Figs. 7 and 9. Applicants submit that the present amendment does not generate any new matter issue.

A clean version of amended claims 1 and 6 appears in the Appendix hereto.

Claims 1 through 14 were rejected under 35 USC §103 for obviousness predicated upon Jang in view of Cunningham.

In the statement of the rejection, the Examiner asserted that Jang discloses various steps of the claimed method except for those disclosed by Cunningham which, the Examiner concluded, one having ordinary skill in the art would have been motivated to incorporate in Jang's methodology. The Examiner relegated the temperature range to optimization within the skill of the art. This rejection is traversed.

The method defined in each of independent claims 1 and 6 comprises a sequence of manipulative steps which includes thermally oxidizing the second silicon film resulting in the formation of a bird's beak at the interface between the first silicon film and the gate oxide film. This manipulative step is neither disclosed nor suggested by the applied prior

art, whether the applied references are considered singly or in combination. Indeed, in the method disclosed in the primary reference to Jang, an oxide 440 is positioned between gate 435 and spacers 460, thereby preventing the formation of a bird's beak as in the claimed invention. Cunningham, of course, does not even disclose the formation of a thermal oxide film and, hence, does not cure the shortcomings of Jang.

Based upon the foregoing, it should be apparent that even if the applied references are combined, the claimed invention would **not** result. *Uniroyal v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Evidence of nonobviousness

It is well settled that the problem addressed in solved by a claimed invention is entitled to consideration as an indicium of nonobviousness. *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 28 USPQ2d 1333 (Fed. Cir. 1993); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989); *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975). The present invention addresses and solves no less than three problems attendant upon conventional practices, as disclosed in the written description of the specification commencing at page 2, line 29. Specifically, the present invention addresses problems which include increased resistance of the gate interconnection (page 3 of the written description, lines 5 through 7), bulging of the oxidized silicide film leading to embedding failures (page 3 of the written description, first and second full paragraphs) and stress induced on the gate oxide thereby reducing device reliability (paragraph bridging pages 3 and 4 of the written description of the

specification). These problems are not even on the radar screens of the applied references. Ergo, the problems addressed and solved by the claimed invention merit consideration as a potent indicium of nonobviousness.

Conclusion

Based upon the foregoing, Applicants submit the a *prima facie* basis to deny patentability to the claimed inventions has not been established. Moreover, upon giving due consideration to the problems addressed and solved by the claimed invention, which go unnoticed in the applied references, the conclusion appears inescapable that one having ordinary skill in the art would **not** have found the claimed invention as a whole obvious within the meaning of 35 U.S.C. §103. *Jones v. Hardy*, 727 F.2d 1524, 220 USPQ 1021 (Fed. Cir. 1984).

Applicants, therefore, submit that the imposed rejection of claims 1 through 14 under 35 U.S.C. §103 for obviousness predicated upon Jang in view of Cunningham is not factually or legally viable and, hence, solicit withdrawal thereof.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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